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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/866,311	05/25/2001	David Allan Cook	06007/37458	4324

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MARSHALL, GERSTEIN & BORUN LLP
233 S. WACKER DRIVE, SUITE 6300
SEARS TOWER
CHICAGO, IL 60606

EXAMINER	
LOPEZ, FRANK D	

ART UNIT	PAPER NUMBER
3745	

DATE MAILED: 05/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/866,311	COOK ET AL.	
	Examiner	Art Unit	
	F. Daniel Lopez	3745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on *07 February 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7,10 and 13-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7,10, 13-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Response to Amendment

Applicant's arguments filed February 7, 2005, have been fully considered but they are not deemed to be persuasive.

The declaration filed on February 7, 2005 under 37 CFR 1.131 has been considered but is ineffective to overcome the A'Hearn et al reference, because the declaration does not support all of the claimed limitations (MPEP 715.07 I, next to last paragraph, states that although the accompanying exhibits need not support all of the claimed limitations, **any missing limitation must be supported by the declaration**).

Exhibit E shows the pilot operated check valve (C) in the line to the head side of the actuator; a soft ride system (SRS) including first (A) and second (B) valves connected to an accumulator (E) and tank (F), respectively, wherein the first valve has a variation where flow is allowed in one direction, in one position and both directions in a second position; and a switch (D) on the boom valve section. Exhibit B discusses the SRS, stating when the SRS is on and the lever is positioned to lower switch D senses position (i.e. lower) de-activating SRS system allowing pressure to rise on rod side of cylinder to open HBCV (C). It would appear that de-activating the SRS would cause both the first and second valves to be closed, whereas the claims has a limitation that the first valve is in the second position (i.e. open in both directions) and the second valve is in the first position (i.e. closed), when arranged to permit lowering (e.g. claim 1 line). Since this limitation is not supported by either the exhibit or the declaration, the declaration is ineffective to overcome the A'Hearn et al reference.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

Claim 18 is rejected under 35 U.S.C. § 103 as being unpatentable over A'Hearn et al in view of Oliphant. A'Hearn et al discloses a wheeled loader comprising an arm pivotally connected to a body; a cylinder (16) having first and second chambers

(connected to 18, 20, respectively) connected to a manually operated selection valve (24), wherein the arm is raised when the selection valve allows pressurized fluid into the first chamber, via a first line (26), and accepts fluid under a lower pressure from the second chamber, via a second line (28) and wherein the arm is lowered when the selection valve allows pressurized fluid into the second chamber and accepts fluid under a lower pressure from the first chamber; a ride improving circuit including first and second manually operated piloted control valves (50, 47) having a second position where passage of fluid therethrough is allowed and a first position, with the first control valve connected between the first chamber and an accumulator (42), permitting flow only from the accumulator to the first line in the first position (via 60), and the second control valve connected between the second line and a low pressure region (23), preventing flow therebetween in the first position; wherein the arm is raised when both the control valves are in the second position (by pilot pressure in line 34, through line 64, valve 68 and lines 49 and 70); and lowered when both control valves are in the first position; but does not disclose that there is a valve assembly in the first line between the first chamber and the selection valve, including a check valve preventing flow from the first chamber to the selection valve, but permitting flow from the selection valve to the first chamber, and a relief valve shiftable from a first position, where flow is prevented in either direction, between the first chamber and the selection valve, and a second position, where flow is permitted from the first chamber to the selection valve; wherein the relief valve is shifted to the second position in response to a pressure increase in the second chamber; wherein the first valve communicates with the first line between the valve assembly and the first chamber; or wherein the relief valve is in the first position, for raising of the arm and in the second position, for lowering the arm.

Oliphant teaches, for a wheeled vehicle comprising a cylinder (66) having first and second chambers (73, 75, respectively) connected to a manually operated selection valve (85), wherein an arm (18) is raised when the selection valve allows pressurized fluid into the first chamber, via a first line (91, 89) and accepts fluid under a lower pressure from the second chamber, via a second line (93, 95) and wherein the arm is lowered when the selection valve allows pressurized fluid into the second chamber and

accepts fluid under a lower pressure from the first chamber; a ride improving circuit including first and second manually operated control valves (96, 122), wherein the first control valve is connected between the first line and an accumulator (101); that there is a valve assembly in the first line between the first chamber and the selection valve, including a check valve (90) preventing flow from the first chamber to the selection valve, but permitting flow from the selection valve to the first chamber, and a relief valve (92) shiftable from a first position, where flow is prevented in either direction, between the first chamber and the selection valve, and a second position, where flow is permitted from the first chamber to the selection valve; wherein the relief valve is shifted to the second position in response to a pressure increase in the second chamber (via 100); wherein the first valve communicates with the first line between the valve assembly and the first chamber; and wherein the relief valve is in the first position, for raising of the arm and in the second position, for lowering the arm; for the purpose of preventing any unintentional lowering of the cylinder under the weight of the arm (e.g. column 7 line 54-60).

Since A'Hearn et al and Oliphant are both from the same field of endeavor, wheeled vehicles with ride control systems, the purpose disclosed by Oliphant would have been recognized in the pertinent art of A'Hearn et al. It would have been obvious at the time the invention was made to one having ordinary skill in the art to include a valve assembly in the first line of A'Hearn et al, between the first chamber and the selection valve, including a check valve preventing flow from the first chamber to the selection valve, but permitting flow from the selection valve to the first chamber, and a relief valve (92) shiftable from a first position, where flow is prevented in either direction, between the first chamber and the selection valve, and a second position, where flow is permitted from the first chamber to the selection valve; wherein the relief valve is shifted to the second position in response to a pressure increase in the second chamber (via 100); wherein the first valve communicates with the first line between the valve assembly and the first chamber; and wherein the relief valve is in the first position, for raising of the arm and in the second position, for lowering the arm, as taught by Oliphant, for the purpose of preventing any unintentional lowering of the cylinder under the weight of the arm.

Claims 14-18 are rejected under 35 U.S.C. § 103 as being unpatentable over Broenner et al in view of A'Hearn et al and Oliphant. Broenner et al discloses a wheeled loader comprising an arm (6) pivotally connected to a body; a cylinder (12, 13) having first and second chambers (connected to 10, 11, respectively) connected to a manually operated selection valve, wherein the arm is raised when the selection valve allows pressurized fluid into the first chamber, via a first line (10), and accepts fluid under a lower pressure from the second chamber, via a second line (11) and wherein the arm is lowered when the selection valve allows pressurized fluid into the second chamber and accepts fluid under a lower pressure from the first chamber; a ride improving circuit including first and second solenoid operated control valves (33, 22, respectively) having a second position where passage of fluid therethrough is allowed and a first position, with the first control valve connected between the first chamber and an accumulator (16-19), permitting flow only from the accumulator to the first line in the first position (via check valve in valve), and the second control valve connected between the second line and a low pressure region (23), preventing flow from the second line to the low pressure area in the first position; wherein the arm is raised or lowered when the first control valve is in the second position (e.g. column 3 line 63-65, note that control 32 is only activated when a different selection valve is activated), and the second control valve is in the first position (e.g. column 3 line 63-65, by either 30 or 31); and a sensor switch (29) sensing the position of the selection valve, to close the second control valve when the second chamber is pressurized; but does not disclose that there is a valve assembly in the first line between the first chamber and the selection valve, including a check valve preventing flow from the first chamber to the selection valve, but permitting flow from the selection valve to the first chamber, and a relief valve shiftable from a first position, where flow is prevented in either direction, between the first chamber and the selection valve, and a second position, where flow is permitted from the first chamber to the selection valve; wherein the relief valve is shifted to the second position in response to a pressure increase in the second chamber; wherein the first valve communicates with the first line between the valve assembly and the first chamber; wherein the relief valve is in the first position, for raising of the arm and in the second position, for

lowering the arm; or that the second control vale is in the second position when the arm is raised.

A'Hearn et al teaches, for a wheeled loader comprising an arm pivotally connected to a body; a cylinder (16) having first and second chambers (connected to 18, 20, respectively) connected to a manually operated selection valve (24), wherein the arm is raised when the selection valve allows pressurized fluid into the first chamber, via a first line (26), and accepts fluid under a lower pressure from the second chamber, via a second line (28) and wherein the arm is lowered when the selection valve allows pressurized fluid into the second chamber and accepts fluid under a lower pressure from the first chamber; a ride improving circuit including first and second manually operated piloted control valves (50, 47) having a second position where passage of fluid therethrough is allowed and a first position, with the first control valve connected between the first chamber and an accumulator (42), permitting flow only from the accumulator to the first line in the first position (via 60), and the second control valve connected between the second line and a low pressure region (23), preventing flow therebetween in the first position; wherein the arm is raised when the the first control valve is in the second position (by pilot pressure in line 34, through line 64, valve 68 and lines 49 and 70); that the first control valve can be either in the first position (as shown in fig 1), or can be in the second position (as shown in fig 2), when the arm is raised.

Since Broenner et al has first and second control valves similar to that of A'Hearn et al, and sicne A'Hearn et al teaches the equivalence of having the second control valve in either the first or second position, during raising of the arm; It would have been obvious at the time the invention was made to one having ordinary skill in the art to have the second control valve of Broenner et al, shifted to the second position when raising of the arm, as taught by A'Hearn et al, as a matter of engineering expediency.

Oliphant teaches, for a wheeled vehicle comprising a cylinder (66) having first and second chambers (73, 75, respectively) connected to a manually operated selection valve (85), wherein an arm (18) is raised when the selection valve allows pressurized fluid into the first chamber, via a first line (91, 89) and accepts fluid under a lower pressure from the second chamber, via a second line (93, 95) and wherein the arm is

lowered when the selection valve allows pressurized fluid into the second chamber and accepts fluid under a lower pressure from the first chamber; a ride improving circuit including first and second manually operated control valves (96, 122), wherein the first control valve is connected between the first line and an accumulator (101); that there is a valve assembly in the first line between the first chamber and the selection valve, including a check valve (90) preventing flow from the first chamber to the selection valve, but permitting flow from the selection valve to the first chamber, and a relief valve (92) shiftable from a first position, where flow is prevented in either direction, between the first chamber and the selection valve, and a second position, where flow is permitted from the first chamber to the selection valve; wherein the relief valve is shifted to the second position in response to a pressure increase in the second chamber (via 100); wherein the first valve communicates with the first line between the valve assembly and the first chamber; and wherein the relief valve is in the first position, for raising of the arm and in the second position, for lowering the arm; for the purpose of preventing any unintentional lowering of the cylinder under the weight of the arm (e.g. column 7 line 54-60).

Since Broenner et al and Oliphant are both from the same field of endeavor, wheeled vehicles with ride control systems, the purpose disclosed by Oliphant would have been recognized in the pertinent art of Broenner et al. It would have been obvious at the time the invention was made to one having ordinary skill in the art to include a valve assembly in the first line of Broenner et al, between the first chamber and the selection valve, including a check valve preventing flow from the first chamber to the selection valve, but permitting flow from the selection valve to the first chamber, and a relief valve (92) shiftable from a first position, where flow is prevented in either direction, between the first chamber and the selection valve, and a second position, where flow is permitted from the first chamber to the selection valve; wherein the relief valve is shifted to the second position in response to a pressure increase in the second chamber (via 100); wherein the first valve communicates with the first line between the valve assembly and the first chamber; and wherein the relief valve is in the first position, for raising of the arm and in the second position, for lowering the arm, as taught by Oliphant, for the purpose of preventing any unintentional lowering of the cylinder under the weight of the arm.

Concerning claim 15, Broenner et al modified by A'Hearn et al and Oliphant does not show a system where the ride improving circuit has an active and an inactive configuration; or that there is a rigid pipe connection between the check valve and the first chamber.

Applicant's admitted prior art (since the official notice was not traversed) is that it is well known the make a ride improving circuit with an active and an inactive configuration, switchable by a manually operated control switch; and that it is well known to use a rigid pipe connection between various valve elements and hydraulic actuators. It would have been obvious at the time the invention was made to one having ordinary skill in the art to make the ride improving circuit of Broenner et al with an active and an inactive configuration, switchable by a manually operated control switch; and to use a rigid pipe connection between the check valve of Broenner et al and the first chamber, as a matter of engineering expediency.

Claim 10 is rejected under 35 U.S.C. § 103 as being unpatentable over A'Hearn et al in view of Oliphant, as applied to claim 10 above; and claims 3; and 1, 2, 4-7 and 13; are rejected under 35 U.S.C. § 103 as being unpatentable over Broenner et al in view of A'Hearn et al and Oliphant, as applied to claim 15 and 14, respectively above, and further in view of Bauer. The modified A'Hearn and Broenner et al discloses all the elements of claim 10 and claims 1-7 and 13, respectively; but does not disclose that the arm is connected at or adjacent the rear end of the body.

Bauer teaches, for a wheeled loader comprising an arm (21) pivotally connected to a body (12, 13) and extending forwardly, such that a working implement (27) is in front of the body; a cylinder (25, 26) having first and second chambers (connected to 230, 231, respectively) connected to a manually operated selection valve (80), wherein the arm is raised when the selection valve allows pressurized fluid into the first chamber and accepts fluid under a lower pressure from the second chamber, and wherein the arm is lowered when the selection valve allows pressurized fluid into the second chamber and accepts fluid under a lower pressure from the first chamber; that the arm is connected at the rear end of the body.

Since the wheeled vehicles of A'Hearn et al and Broenner et al are functionally equivalent to the wheeled vehicle of Bauer; It would have been obvious at the time the invention was made to one having ordinary skill in the art to replace the wheel ed vehicle of either the modified A'Hearn et al or the modified Broenner et al with a wheeled vehicle having the arm connected at the rear end of the body, as taught by Bauer, as a matter of engineering expediency.

Concerning claims 5 and 6, the modified Broenner et al, as discussed above, does not show the accumulator, control valves, and valve assembly mounted directly onto the cylinder; or that at least one of the accumulator, control valves, and valve assembly is made of metal.

Oliphant teaches, for a wheeled vehicle comprising a cylinder (66) having first and second chambers (73, 75, respectively) connected to a manually operated selection valve (85), wherein an arm (18) is raised when the selection valve allows pressurized fluid into the first chamber, via a first line (91, 89) and accepts fluid under a lower pressure from the second chamber, via a second line (93, 95) and wherein the arm is lowered when the selection valve allows pressurized fluid into the second chamber and accepts fluid under a lower pressure from the first chamber; a ride improving circuit including first and second control valves (96, 122), wherein the first control valve is connected between the first line and an accumulator (101); and a valve assembly in the first line between the first chamber and the selection valve, that the accumulator, control valves, and valve assembly mounted directly onto the cylinder (e.g. fig 6).

Since the modified Broenner et al and Oliphant are both from the same field of endeavor, wheeled vehicles with ride control systems, the mounting of the accumulator, control valves, and valve assembly disclosed by Oliphant would have been recognized in the pertinent art of the modified Broenner et al. It would have been obvious at the time the invention was made to one having ordinary skill in the art to mount the accumulator, control valves, and valve assembly of the modified Broenner et al directly onto the cylinder, as taught by Oliphant, as a matter of engineering expediency.

Applicant's admitted prior art (since the official notice was not traversed) is that it is well known to make accumulators and valves, of metal. It would have been obvious at the time the invention was made to one having ordinary skill in the art to make the accumulator, control valves, and valve assembly of the modified Broenner et al of metal, as a matter of engineering expediency.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dan Lopez whose telephone number is 571-272-4821. The examiner can normally be reached on Monday-Thursday from 6:15 AM -3:45 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Look, can be reached on 571-272-4820. The fax number for this group is (703) 872-9302. Any inquiry of a general nature should be directed to the Help Desk, whose telephone number is 1-800-PTO-9199.

F. Daniel Lopez
Primary Examiner
Art Unit 3745
May 16, 2005